Microsemi Announces First Series of Silicon Carbide RF Power Devices for VHF and UHF Radar Applications

IRVINE, Calif., Oct 6, 2008 (GlobeNewswire via COMTEX News Network) -- Microsemi Corporation (Nasdaq:MSCC), a leading manufacturer of high performance analog/mixed signal integrated circuits and high reliability semiconductors announced today its first two RF power transistors utilizing silicon carbide technology for high power VHF and UHF band pulsed radar applications.

"These are the first parts in a breakthrough series of silicon carbide RF power transistors Microsemi is now able to bring to the market, utilizing our new state of the art production capabilities," said Charlie Leader, Vice President of Microsemi's Power Products Group Military and Aerospace business in Santa Clara, California.

"The performance of these new devices demonstrates the clear advantages silicon carbide technology brings to applications in avionics, radar, and electronic warfare," Leader said. "They also underscore the leadership position Microsemi's Power Product Group has established in providing innovative and cost effective solutions for the most demanding RF pulsed power applications," he added.

Designated 0150SC-1250M and 0405SC-1000M, these RF Power transistors utilize state-of-the-art silicon carbide technology designed for VHF - 150 to 160 MHz, and UHF - 406 to 450 MHz respectively. These high performance, common gate, class AB, high power transistors offer the industry's highest power output, typical 1400W at VHF and 1100W at UHF of peak power in compact single-ended packages.

Typical silicon-based RF power transistor solutions offered throughout the industry, such as BJT or LDMOS devices, must use complex push-pull designs to achieve similar power levels. Microsemi's new silicon carbide devices also are built with 100% gold metallization and gold wires in hermetically sealed packages for the highest reliability in weather and long range radar applications.

As new system designs demand substantial performance increases beyond silicon capability, silicon carbide is the "Next Generation" technology. Microsemi will continue to develop and bring to market High Power SiC transistors for applications from HF thru S-Band.

System Benefits using Microsemi silicon carbide RF power transistors:

* Single-ended design with simplified impedance matching replaces complex push-pull circuitry
* Industry's highest peak power reduces system power combining
* High operating voltage drastically reduces power supply size and dc current demand
* Low conducting current significantly minimizes system noise effect
* Extremely rugged performance improves system yields
* 50% smaller size than the highest power devices built with silicon BJT or LDMOS
* All gold metallization and gold wire provide military grade long term reliability

Microsemi's new silicon carbide products utilize new chip design and processing enhancements to offer state-of-the-art performance, notably in high power, small transistor and circuit size over the specified frequency range with 300 us pulse width and 10% duty cycle.

0150SC-1250M Key Specifications

* Designed for UHF Radar Application:	150 - 160 MHz
* Medium Pulse Format:	300 us, 10%
* Output Power:	1,400W typ, 1,250W min
* Power Gain:	9 dB
* Drain Efficiency:	60 % @155 MHz
* Compression:	In Compression
* Vdd:	+125V
* Ruggedness	Capable of VSWR-T 10:1

0405SC-1000M Key Specifications

* Designed for UHF Radar Application:	406 - 450 MHz
* Medium Pulse Format:	300 us, 10%
* Output Power:	1,100W typ, 1,000W min
* Power Gain:	8 dB
* Drain Efficiency:	50 % @450MHz
* Compression:	In Compression
* Vdd:	+125V
* Ruggedness	Capable of VSWR-T 10:1

Demonstration kits of the two new Microsemi silicon carbide RF power transistors are available now by contacting the factory direct or by email to sic@microsemi.com. Technical datasheets describing the features and benefits of the 0150SC-1250M and 0405SC-1000M may be downloaded from Microsemi's website at www.microsemi.com.

About Microsemi

Microsemi Corporation, with corporate headquarters in Irvine, California, is a leading designer, manufacturer and marketer of high performance analog and mixed-signal integrated circuits and high reliability semiconductors. The company's semiconductors manage and control or regulate power, protect against transient voltage spikes and transmit, receive and amplify signals.

Microsemi's products include individual components as well as integrated circuit solutions that enhance customer designs by improving performance and reliability, battery optimization, reducing size or protecting circuits. The principal markets the company serves include implanted medical, defense/aerospace and satellite, notebook computers, monitors and LCD TVs, automotive and mobile connectivity applications. More information may be obtained by contacting the company directly or by visiting its website at http://www.microsemi.com.

The Microsemi Corporation logo is available at http://www.globenewswire.com/newsroom/prs/?pkgid=1233

PLEASE READ THE FOLLOWING FACTORS THAT CAN MATERIALLY AFFECT MICROSEMI'S FUTURE RESULTS.

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